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ABSTRACT

These five papers are from a symposium that was facilitated by Elwood F. Holton, III at the 1995 conference of the Academy of Human Resource Development (HRD). "HRD Alignment: A Systemic Assessment of HRD in Organizations" (Richard J. Torraco) describes the HRD alignment model as a model for evaluation that offers a systemwide perspective on HRD in organizations. "HRD Policy Making in Companies: An Interpretation of the Differences" (Ida Wognum) reports results of an explorative survey that found specific strategic choices are made as a result of the HRD policymaking process. "The Impact Map: A Versatile Tool to Link HRD with Business" (Sharon J. Korth) discusses the use of the impact map in the needs assessment, design, implementation, and evaluation stages of an HRD intervention. "Strategic Quality Training: The Transformation of the Connecticut State Department of Labor" (Sandra L. Hastings, Anne B. Nichols) describes a comprehensive training plan that integrates training and on-the-job performance to promote the agency's strategic mission. "Managing Organizational Learning To Improve Performance" (K. Peter Kuchinke) synthesizes findings of academic research and practitioner-oriented publications and describes the implications of a performance orientation for the four components of organizational learning: knowledge acquisition, information distribution, interpretation, and organizational memory. (YLB)

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HRD Alignment: A Systemic Assessment of HRD in Organizations
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HRD Policy Making in Companies: An Interpretation of the Differences
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Impact Map: Versatile Tool to Link HRD with Business Outcomes
Sharon J. Korth, Xavier University

Strategic Quality Training - The Transformation of the Connecticut State Department of Labor
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Managing Organizational Learning to Improve Performance
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HRD Alignment: A Systemic Assessment of HRD in Organizations

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Present evaluations of HRD are almost exclusively conducted on a program-by-program basis. This paper argues that a more systemic approach to evaluating HRD is needed because of the valuable summary information across programs that such an approach offers. The HRD alignment model is described as a model for evaluation that offers a system-wide perspective on HRD in organizations. The components of the model are described and illustrations of its use are provided. The HRD alignment model is shown to have clear advantages over present methods of program-by-program evaluation in providing decision makers with a systemic perspective on HRD's role and overall "alignment" in organizations.

The call for HRD accountability continues as organizations are faced with increasingly sophisticated skill requirements, a more competitive business environment, and tighter corporate budgets. The evaluation of HRD, when it is done at all, is almost exclusively conducted on a program-by-program basis. Yet, are there benefits to generating evaluation data derived from a summary assessment of *all* of an organization's HRD programs? In light of increasingly holistic views of organizations as dynamic systems, an approach to evaluation that allows the assessment of HRD from *a systemic perspective* appears to offer an important alternative to evaluating HRD on a program-by-program basis. The HRD alignment model provides a systemic perspective for assessing all of an organization's HRD programs and yields valuable information about HRD "alignment"--the degree to which HRD contributes to the achievement of the collective goals of the organization.

Conceptual Challenges to the Systemic Assessment of HRD

The evaluation of HRD is concerned with collecting and using information to make judgments about the outcomes, effectiveness, efficiency, importance, or other benefits and consequences of HRD. The evaluation of HRD is necessarily a value-laden process. The term *evaluation* is rooted in the Latin derivative of value--*to be worth.* Evaluation depends, to a considerable degree, on what is valued by the evaluator. A variety of questions can be posed for the purpose of evaluating HRD. What interests and outcomes should be served by HRD? What are the perceptions of various stakeholders in HRD as to the goals and purposes of HRD programs? Are stakeholders' perceptions of HRD's purposes consistent from one person to another? Given the goals of specific HRD programs, to what extent are they achieved? Is personal growth an important outcome of HRD? Is HRD that is intended to improve organizational performance having the desired effects? These are but a few of the broad range of concerns we may have in evaluating an HRD program. These concerns about individual programs also apply to the system-wide assessment of multiple HRD programs offered by organizations.

Yet, several conceptual challenges exist for those who wish to assess HRD from a systemic perspective. A method for generating evaluation data on an organization's HRD programs must be both theoretically sound and easily applied in the workplace. Three conceptual challenges to the development of a systemic evaluation model, all of which must be addressed for a model to be both valuable and practical, are briefly examined next.

First, a summary assessment of HRD that examines programs from a systemic perspective must honor the unique goals and outcomes of specific HRD programs. HRD programs vary as to their purposes, time frames, and intended outcomes. Organizations offer HRD at several levels of the organization and, within each level, HRD can meet a variety of needs. Skills and technical training is offered to employees to enhance their technical competence and work skills, whereas

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management development involves broader content for employees at higher organizational levels. Similarly, the goals of HRD can vary from enhancing the personal development of individuals to increasing an organization's market share. Consequently, the desired outcomes of HRD vary as a function of these diverse goals. The outcomes of some HRD programs are tangible and easily assessed (for example, improvements in the quality of a particular product), whereas the outcomes of other HRD programs are more long-term and abstract (for example, the extent to which an employee is able to integrate work and family). While honoring the unique goals and outcomes of specific programs, a model for evaluation must carefully integrate and summarize assessment data for HRD programs that can be quite diverse.

Second, HRD evaluation should address both the design, processes, and resources used in HRD, and the extent to which the desired outcomes of HRD have been achieved. That is, the evaluation of HRD should in some way address both process issues (formative evaluation) and outcome issues (summative evaluation).

Third, the evaluation of an organization's HRD programs should provide valuable information about the degree to which HRD programs contribute to the achievement of organizational goals. This feature of HRD is what is meant by the term "alignment." The alignment of HRD is the degree to which HRD contributes to the collective goals of the organization. Information on the alignment of HRD with organizational goals is truly of strategic value to top decision makers and all stakeholders in HRD. Strategically aligned HRD addresses the improvement of work performance in areas that contribute to the achievement of important organizational goals.

Present methods of evaluating HRD do not completely address these features and do not allow an assessment of HRD from a systemic, organization-wide perspective. These deficiencies in evaluation methods are summarized in the next section.

Summary of Current Evaluation Methods

The evaluation of HRD, if it occurs at all, can focus on the evaluation of learning outcomes, the evaluation of performance outcomes, and evaluation of programs using financial analysis. A majority of HRD offered in organizations is not evaluated at all, however, and those that are evaluated most often ask for participants' reactions to training. HRD is infrequently evaluated for specific outcomes using systematic evaluation methods (Catalanello and Kirkpatrick, 1968; Wagel, 1977; Mosier, 1990). Program evaluation can occur through an evaluation of instructional processes or "formative evaluation" (Dick, 1977) and through an assessment of the overall effectiveness of programs or "summative evaluation" (Parker, 1986). While evaluations that focus on participant learning and classroom applications provide important feedback about specific programs, these evaluations are insufficient for making broader judgments about the overall effectiveness of HRD and its connection to organizational goals. A four-level hierarchy of evaluation that goes beyond the evaluation of participant "reactions" and "learning" to include the evaluation of "performance" and "business results" was developed by Kirkpatrick (1960). These four levels of evaluation still serve as a viable framework for evaluating HRD. Others models based on Kirkpatrick's four-level hierarchy that emphasize the evaluation of performance outcomes have also been described (Brinkerhoff, 1987; Phillips, 1991; Robinson and Robinson, 1989). Evaluating HRD with financial analysis can be accomplished through utility analysis (Schmidt, Hunter, and Pearlman, 1982), a model for forecasting the financial benefits of HRD (Swanson and Sleezer, 1986; Swanson and Gradous, 1988), using measures of return on investment (Phillips, 1994), and through human resource accounting (Cascio, 1987; Spencer, 1986).

Despite the availability of a variety of evaluation methods, the major shortcoming of present evaluation models is that, on the whole, they overlook the need for a systemic assessment of all HRD programs from a single, holistic perspective. While each of these evaluation methods provides data on the effectiveness of a particular HRD program, no framework exists for assessing the overall strategic position of HRD in an organization. That is, none of these evaluation techniques addresses the need for a *systemic assessment of HRD*--a summary view of HRD's influence across all programs throughout the organization. A systemic perspective of HRD is needed that assesses all of an organization's HRD programs and that yields valuable information about HRD's "alignment"--the degree to which HRD contributes to the achievement of organizational goals.

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In order to provide information on the contribution of HRD to organizational goals, a systemic model for assessing HRD must reflect the full organizational context within which HRD occurs. Because the time frame for the desired effects of HRD varies widely depending on the nature of the program, the model should provide information on the temporal dimension of HRD. The model should also be flexible in allowing users to adapt it to their specific needs, for HRD programs are quite diverse and often require program-specific evaluation criteria. HRD alignment provides such a model by affording a systemic perspective of HRD in organizations.

The HRD Alignment Model

HRD alignment is presented as a model that has two major components: (a) the context of HRD Programs, and (b) evaluation criteria for HRD programs. Each of these components of the HRD Alignment model is briefly described next.

The Context of HRD Programs. The context within which HRD occurs can be seen as a function of both the primary purpose of HRD (that is, the degree to which HRD is focused on meeting individual goals, on meeting organizational/business goals, or some combination thereof) and the timeline along which the effects of HRD are expected. The "primary purpose of HRD" and the "time frame of HRD effects" constitute the two dimensions of the model's *Context of HRD Programs* (see Figure 1, The Context of HRD Programs). Each of these dimensions of Figure 1 is briefly described next.

Primary Purpose of HRD (Individual-Organizational Continuum). The primary purpose of specific HRD programs varies widely along a continuum that runs from programs intended to meet individual needs (e.g., personal and family financial planning) to HRD efforts which involve everyone in the organization (e.g., programs dealing with new business plans or structural reorganization). HRD focused on meeting individual needs might include programs in basic literacy and math skills, programs for personal health and fitness, and programs that explore individual learning styles and decision making patterns. HRD with an organizational focus is intended for a wider audience and involves broad issues of organizational change, markets and customers, major cross-functional work systems, and other organizational needs. Depending on the purpose of HRD, the effectiveness of a program is assessed against the goals and needs it was designed to address.

Specifying the primary purpose of HRD *compels us to be explicit about the core purpose* of each HRD program. That is, although an HRD program may offer multiple benefits to participants (e.g., HRD to stimulate the development of new product lines may also promote closer working relationships among participants), we must be clear about the *primary* reason for an HRD program. Most HRD is intended for defined groups of employees such as those of a department or employees at a particular level. HRD can certainly serve more than one purpose. Yet, a compelling need or opportunity ought to exist that ultimately supports and justifies each HRD program. HRD might be more appealing to participants and perhaps more effective in meeting a range of related needs if it addresses several goals within the organization. Yet, we should be able to identify the primary reason an HRD program is deemed important enough to offer in the first place. As shown in Table 1, it is possible to state a primary purpose for each of several HRD programs whether or not they were originally intended to address several purposes or benefits.

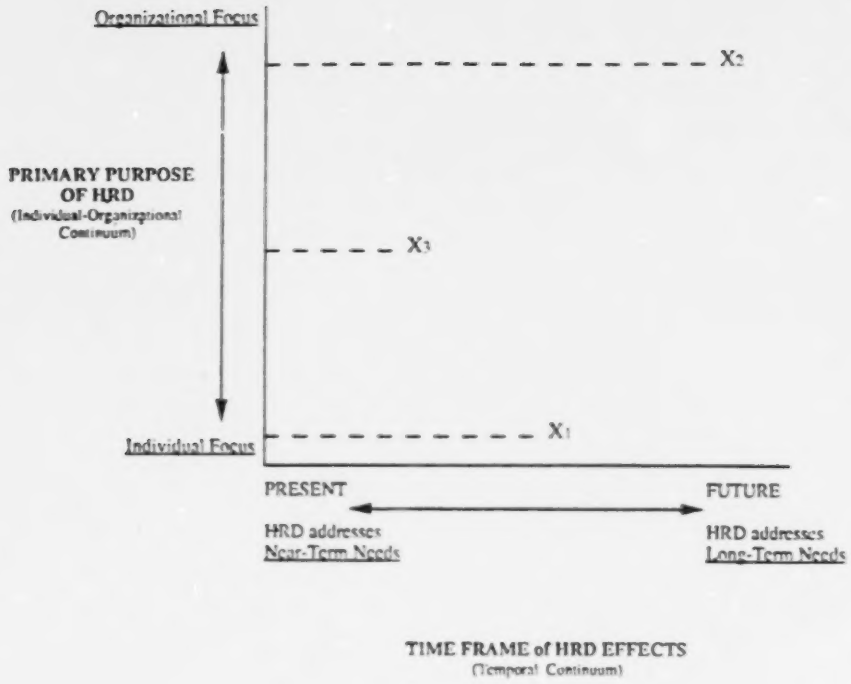

Figure 1. The Context of HRD Programs

	HRD Program X_1	HRD Program X_2	. . . . .	HRD Program X_n
ANALYSIS Performance Analysis, Context Analysis, Planning, Design				
INTERVENTION Processes, Methods, Resources				
EVALUATION Program Revision, Adoption				

Figure 2 Evaluation Criteria for HRD Programs

HRD Program	Primary Purpose and Benefit	Secondary Purpose(s) and Benefit(s)
1. Basic statistical methods for quality improvement	• Problem identification, prioritization, analysis	• Promote interpersonal and inter-group cooperation • Promote cross-functional view of process improvement
2. New business development for managers	• Expand current product lines and applications into into promising new areas	• Enhance participants' understanding of competition and market dynamics
3. Workplace adult literacy training	• Higher reading and math levels for more effective communication and computation	• Enhance self-image of participants • Broader foundation for applied skills and enhanced productivity
4. Technical training in advanced production processes	• Acquisition of programming and monitoring skills for customized batch production	• Promote a systems perspective of the interactive and cross-functional nature of process technologies
5. Employee-centered performance management	• Understanding and use of a collaborative approach to employee performance appraisal	• More effective and supportive supervisor-employee relationships • More employee autonomy in goal-setting and performance management

Table 1. Primary and Secondary Purposes of HRD Programs

The primary justifications for HRD programs beyond those given here could easily be added to the list in Table 1. While HRD can and should address multiple needs, we should be able to clearly identify the primary purpose of a program and place it along a continuum that represents the spectrum of individual and organizational purposes served by HRD. Because of the inherent diversity of HRD, programs offered by an organization can be distributed along an "individual-organizational" continuum. Placement of HRD programs along an "individual-organizational" continuum allows a summary perspective of HRD's goals and purposes. When viewed together with other features of the HRD alignment model, the "individual-organizational continuum" of HRD provides a valuable perspective on the overall purposes and effectiveness of HRD in an organization. In this way, the continuum contributes an important dimension to the systemic assessment of HRD.

Time Frame of HRD Effects (Temporal Continuum). The second component of the "context of HRD programs" represents the timeline along which the effects of HRD are expected. This "temporal continuum" along which HRD outcomes occur runs from the present to the foreseeable future. Specifying the expected time frames of HRD programs is important for two reasons. First, a systemic perspective of HRD's overall position within the organization allows stakeholders and decision makers to visualize the temporal dimension of HRD's contributions to the organization. Time frames and scheduling are critical to business success, and temporal considerations are an important part of the on-going decision making activities necessary for all

core functions within the organization, including HRD. Using time as a common denominator for business planning, the "time frame of HRD effects" provides decision makers with a broad and informative estimate about when the outcomes of HRD are expected to materialize.

Second, there should be approximate symmetry in the overall distribution of HRD programs along the temporal continuum. That is, there should be some balance and proportion reflected in the timing of HRD's effects along the temporal continuum. HRD that truly supports business activities will yield both near-term and long-term outcomes. For example, HRD that addresses near-term needs might involve employee training to support the introduction of new production equipment or computer software. In this case, the outcomes of HRD should occur in the near-term as expected with much of the training for the acquisition or improvement of job and task-related performances. HRD programs to meet long-term needs address outcomes which occur gradually and may not be fully realized until a year or more after the program, as expected with HRD-supported initiatives directed at new business development, organization restructuring, and the establishment of autonomous work groups.

In general, HRD that supports a broad range of organizational needs and opportunities should be more or less evenly distributed across the temporal continuum. A range of HRD programs that reflect a variety of purposes (for example, HRD that meets personal development needs, operational business demands, and that supports long-term planning and change) will be well represented along the entire temporal continuum and will project a balanced image to observers. Viewing the overall time frame of HRD effects offers an important perspective on the overall alignment of HRD in the organization. Stakeholders in HRD should become concerned if HRD is unevenly focused on issues and outcomes on one end of the continuum to the exclusion of those at the other. That is, HRD should not be too heavily focused on either near-term or long-term objectives. HRD that is predominantly near-term in nature raises the question "Is the overall focus of HRD too short-sighted?" HRD that is predominantly long-term in nature raises the question "Is HRD truly relevant to present business challenges?" HRD that supports a broad range of needs should reflect balance along the temporal continuum.

Examples of the Diverse Contexts of HRD. Three HRD programs that reflect diverse purposes and time frames are represented in Figure 1 as programs "X1," "X2," and "X3." Programs X1, X2, and X3 are examples of the variety of contexts within which HRD programs exist. Program X1 is HRD intended for the personal development of individuals with an intermediate range time frame for expected effects. A program to enhance employee self-knowledge based on the use of an instrument such as the Myers-Briggs Type Indicator is an example of this type of HRD. Program X2 is HRD focused on organizational goals for which effects are expected to occur gradually over the long-term. HRD primarily directed at improving the overall quality of products and services through the principles and practices of total quality management (TQM) is an example of this type of long-term, broad-based HRD. Program X3 is HRD that exists in the middle of the individual-organizational continuum and that has a relatively short time frame for expected effects. Technical training in the use of a new, interactive spreadsheet program for employees who work with on-line production and inventory systems is an example of this type of HRD. Each of these three examples reflects a distinctive set of HRD purposes and time frames. The purposes and time frames for each program illustrate how the context of HRD can vary significantly from program to program.

Evaluation Criteria for HRD Programs. The second major component of the HRD alignment model is a framework for specifying the evaluation criteria for HRD programs. This component allows the user of the model to select among a wide variety of criteria for evaluating HRD programs. Because the purposes of HRD programs vary, the criteria used to evaluate program effectiveness vary. Yet all HRD interventions to affect learning and change share fundamental structural components. These basic components of HRD programs are analysis, intervention, and evaluation. All HRD programs, regardless of their scope, purpose, time frame, or intended audience, must be grounded in some type of basic analysis of need. Regardless of whether a program is directed at enhancing the personal development of individuals or the market share of organizations, the design of HRD is purposefully based on an analysis of the expertise that is (and is not) needed to affect desired outcomes. In addition to requiring analysis, all types of HRD are interventions. HRD programs are vehicles for change based on the behavioral sciences that assume specific structures, processes, and methods that are program and content-specific. The specific methods used are consistent with the outcomes to be achieved. Assessment of HRD as an intervention examines ways in which the processes and methods of HRD can be improved and

revised. As interventions based on analysis, HRD should also be evaluated for information on its instructional integrity and its overall effectiveness. This component addresses summative evaluation questions, such as "Should a program be adopted or not" and "Is a program cost-beneficial?"

Each of these three components of HRD--analysis, intervention, and evaluation--constitutes an important dimension through which HRD of all types and contexts can be evaluated. These three components are represented along the vertical axis of the evaluation matrix shown in Figure 2. All HRD programs to be assessed on these three dimensions are placed along the horizontal axis at the top of the matrix (see Figure 2, Evaluation Criteria for HRD Programs). Within the three basic components of analysis, intervention, and evaluation, users of the HRD alignment model identify evaluation criteria specific for each HRD program. Some categories of general measures that can be used for specifying evaluation criteria for individual programs are given in Table 2.

- ANALYSIS of:
  - Context of HRD (who, what, when, where, how, why)
  - Prior HRD of relevance
  - Key causes or determinants of performance
  - Interest and support among stakeholders in HRD
  - Probable benefits and outcomes; and
  - Available resources and costs of HRD

- INTERVENTION based on:
  - Behavioral objectives
  - Capabilities to be learned
  - Appropriate learning methods, materials, and media
  - Optimal interpersonal and intergroup dynamics
  - Processes for affecting individual and group change

- EVALUATION of:

Outputs	Costs
Time	Quality
Efficiency	Effectiveness
Work Habits	Feelings/Attitudes
Work Climate	Self-knowledge
Skills Developed	Personal Growth
Learning Achievement	Other Measures

- EVALUATION by:
  - Customers/Clients
  - Supervisors
  - Peers
  - Self
  - Subordinates
  - Other Stakeholders

Table 2. Sources of Evaluation Criteria

For example, the "analysis" component for HRD may be assessed through criteria identified by the user of the model in areas such as performance analysis, data collection, planning, and design. Similarly, the "intervention" component can be assessed through evaluation categories for methods, processes, resources, or other categories related to the HRD intervention deemed relevant by the user. The evaluation component of the vertical axis can also be customized to meet the user's needs. The user can identify relevant criteria for specific programs from a wide variety of evaluation criteria that have been developed for similar programs, some sources of which are listed

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in Table 2. Program-specific evaluation criteria are entered in the cell which corresponds to the appropriate structural component of an HRD program. Within an organization, diverse HRD programs that meet a variety of needs can thereby be evaluated within a single framework. An example of how this evaluation framework might be used is provided in the next section.

Assessing Diverse HRD Programs within a Single Framework. In this section, two HRD programs that reflect quite different purposes will be briefly examined and then placed within the *Evaluation Criteria for HRD Programs* framework to illustrate its use for assessing diverse HRD programs. HRD that makes a key contribution to organizational performance, such as the accomplishments of a well-conceived TQM effort, is likely to win the interest of top management. Yet not all HRD can or should be directed solely at improving measures of organizational performance. HRD provided for the personal development of employees, even in areas that offer no immediate work applications, have enrichment value for individual employees and can enhance the overall morale, productivity, and longevity of the workforce. Two diverse HRD programs--one focused on TQM-based quality improvement efforts and the other focused on enhancing employee self-knowledge through the Myers-Briggs Type Indicator--are described next. Evaluation criteria for each of these programs are also provided.

TQM Training. The example of TQM training used here is that of an HRD-supported effort to maximize employee involvement in decision making and accountability for quality and customer satisfaction. As with any effort to improve work performance, the HRD function and management collaborate within a systems framework to add value and improve work efficiency. In addition to developing process improvement expertise, HRD is used to reinforce systems thinking, broaden employees' business perspectives, and enhance the self-direction of employees as they assume broader, most flexible work roles. While the effectiveness of individuals and groups are enhanced through such interventions, the primary purpose of this effort is to improve the overall quality of products and services at the organizational level.

A Personal Development Program. The benefits of HRD focused on the personal development of employees may not be immediately evident or quantifiable, but they are no less valuable to individuals and organizations than the benefits of training with more tangible outcomes. A program to enhance employee self-knowledge, such as one based on the Myers-Briggs Type Indicator (MBTI), allows employees to discover their perception and decision making patterns and to identify new ways of expressing their interests and abilities. In exploring the unique psychological traits of individuals with respect to motivation, learning styles, and patterns of perception and judgment, the MBTI offers the individual new insights into how they perceive and deal with the world. Employees participating in such a program identify their psychological types and apply their insights to their own interpersonal relations, problem solving methods, and career preferences.

The purposes, methods, and outcomes of these two HRD programs are quite distinct from one another. The TQM-based effort seeks specific improvements in product quality and customer service as evidenced in tangible measures of product quality and customer feedback. HRD serves a central role by expanding employee expertise in systems thinking, product knowledge, and relevant technical skills. On the other hand, the development of employee self-knowledge through psychological tools, such as the MBTI, seeks to expand the inner resources of individual employees. Personal insight is enhanced and applications of broader self-knowledge to personal, family, job, and career issues are encouraged. For this program, no claim is made that it will result in tangible improvements in organizational performance.

Diverse HRD programs such as the two described here can be assessed within the same framework using the evaluation matrix represented in Figure 2. The *Evaluation Criteria for HRD Programs* matrix offers a summary perspective of HRD once evaluation criteria and supporting data for each HRD program have been entered into the appropriate cells of the matrix. Data is entered by first writing the name of each HRD program at the top of each matrix column, followed by a cell-by-cell listing of evaluation criteria for the "analysis," intervention," and "evaluation" components along the vertical axis. Once this data has been entered for all HRD programs being assessed, the evaluation matrix is complete. An example of an evalution matrix completed with data for the TQM training and the MBTI personal development program is presented in Figure 3.

As can be seen by comparing the evaluation criteria for the MBTI program and the TQM training, the purposes and outcomes of these programs are indeed quite diverse. The assessment of diverse programs within a single framework exposes fundamental differences in the values and interests served by such diverse types of HRD. Important questions arise through examining

	HRD Program X1 Personal Development MBTI	HRD Program X2 TQM Training	. . . . .	HRD Program Xn
ANALYSIS Performance Analysis, Context Analysis, Planning, Design	• Levels of Program Interest and Need • Number and Profile of Participants • Data on Desired Content and Format	• Complete analysis of quality (performance) determinants • Cultural readiness for TQM training • Appropriate plans and timeframe established		
INTERVENTION Processes, Methods, Resources	• Adequacy of Prerequisites • Balance in Learning Activities: Individual vs.. Small Group • Relevance of Applications and Program Follow-up	• Balance of basic and applied TQM methods • Effectiveness of team development • Resources and reinforcement for employee self-direction		
EVALUATION Program Revision, Adoption,	• Self-knowledge • Application to Personal Life and to Work Issues • Other Learning and Personal Growth • Evaluation by Self & Others	• Measures of product/service quality • Efficiency of throughput • Customer satisfaction • Work climate and team cohesiveness		

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Figure 3. An Example of HRD Evaluation Criteria

Figure 3 about the role of HRD in organizations and the interests it serves. Does HRD exist to help the organization meet important business challenges that must be addressed if the organization is to survive? If so, does HRD have a further role in meeting a whole tier of personal development needs at the level of the individual employee? Indeed, HRD that meets diverse interests and outcomes can and should be sponsored within the same organizations. Yet most HRD is provided without attempts to evaluate it, and when it does occur, evaluation is accomplished in a piecemeal, program-by-program fashion. Thus, there are few opportunities to assess diverse HRD programs in a systemic fashion. Examining the evaluation matrix in Figure 3 helps remind us that evaluation is a necessarily value-laden process. Regardless of our personal ideological position on the proper role of HRD in organizations, the evaluation of HRD should allow the diverse values and interests it serves to be made explicit. The evaluation matrix of the HRD alignment model (Figure 2) affords this expression of HRD's diversity.

A Systemic Perspective of HRD

The overall alignment of all HRD programs in an organization is determined using the combined perspectives offered by the two major components of the HRD alignment model. *The Context of HRD Programs* model (Figure 1) allows users to view the focus and time frame for effects of all HRD programs in a single chart. This allows the relative positions of HRD programs on these two dimensions to be assessed at one time. The *Evaluation Criteria for HRD Programs* model (Figure 2) allows individual HRD programs to be assessed using criteria specific to each program, and does so in a way that allows a summary assessment of all HRD programs. Together the two components of the HRD alignment model provide users with a system-wide perspective on HRD that is not possible with program-by-program evaluation of HRD.

The HRD alignment model is used to examine multiple HRD programs in organizations to gain more systemic insights into HRD organizational roles and "HRD alignment"--degree of HRD's contribution to organizational goals. Top decision makers and other key stakeholders in HRD can compare the "context" positions of HRD programs in Figure 1 and quickly assess the strengths and weaknesses of each program using program-specific evaluation data in Figure 2. Trends, clusters, and omissions in the context of HRD programs (for example, the absence of long-range, organization-focused HRD, or a wealth of near-term, individual-focused HRD) are easily seen in the model, as are the relative strengths and weaknesses of each program. The primary purposes of HRD programs may be clustered within a particular quadrant of Figure 1 to the neglect of other needs within the organization. These program trends, clusters, and omissions represent valuable indicators of HRD's orientation in the organization that are not apparent with program-by-program evaluation of HRD. When the "context" positions of several programs are plotted in Figure 1, overall patterns in the positions of HRD programs emerge that guide decision making on HRD's role and future direction. HRD that occurs without regard to such a systemic perspective runs the risk of becoming irrelevant, particularly in today's rapidly changing business environment. HRD alignment, or the degree of HRD's contribution to achieving organizational goals, ought to be readily discernible if HRD is to continue to play a central role in sustaining the human expertise needed for organizational performance. The HRD alignment model provides decision makers with a systemic perspective on the interests served by HRD and its contributions to organizational goals.

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HRD Policy making in companies: an interpretation of the differences

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Effective HRD policy making processes in companies are necessary for realizing effective HRD interventions. To gain more insight in this process an explorative survey has been started up. In this paper some of the findings are presented. Specific strategic choices as a result of the HRD policy making process were found, as well as affecting company characteristics. The results also indicate that the HRD policy-making process is capable of improvement in some or even all indicators of this procedure.

Effective HRD interventions are tuned to developments and problems in the company, in order to enhance the performance of individuals, departments or the company as a whole. To determine the right HRD goals and objectives and the most appropriate HRD activities, a process of strategic tuning to the specific company must precede these interventions. This process of strategic tuning or HRD policy making encompasses the assessment of the desired HRD goals and objectives, the so called planned results, and leads to strategic choices for effectuating these planned results. The process of assessing the HRD goals and objectives must take place with the participation of all relevant stakeholders on the various levels in the company. The strategic choices consist of particular choices of employees being trained or developed, and choices of HRD interventions for training and developing the selected categories of employees. Literature indicates that the HRD policy making processes in companies vary. Differences may occur as a result of the problems or developments which give rise to the HRD policy making process and reveal themselves in the above mentioned strategic choices. Literature also indicates that differences may be related to some characteristics of the company and of the HRD department in which the HRD policy making process is taking place. To gain more insight in the HRD policy making process in companies and in particular in relevant differences and affecting characteristics, an explorative survey has been started up in January 1994.

Problem Statement and Conceptual Framework

The key problem statement of the performed research project runs as follows: *In what way do the HRD policy making process in companies vary?* In this study HRD policy making is defined as the assessment of HRD goals and objectives in a process of strategic tuning to the company, so that the resulting HRD interventions are aligned to the problems and developments of the company. The strategic tuning process can be characterized by some indicators (Wognum, 1994). One of those concerns the level and participants involved in the initially strategic tuning process. HRD goals and objectives can be formulated on each of the three levels of the company, i.e.: the strategic level with top management as primary stakeholder, the tactical or structural level with middle management and the operational level with lower executive management and individual employees as primary stakeholders (e.g. Rummler, 1987; Kaufman, 1990). Strategic policymaking takes place in theory on all three levels, according, among others, to De Leeuw (1988).
A second indicator concerns the procedure of strategic tuning, and more specific: the nature of this procedure, related to the more or less interactive or formal way of stakeholder's contribution or even the absence of it (see a.o.: Harrison, 1991; Kaufman, 1986; London, 1989). Another indicator

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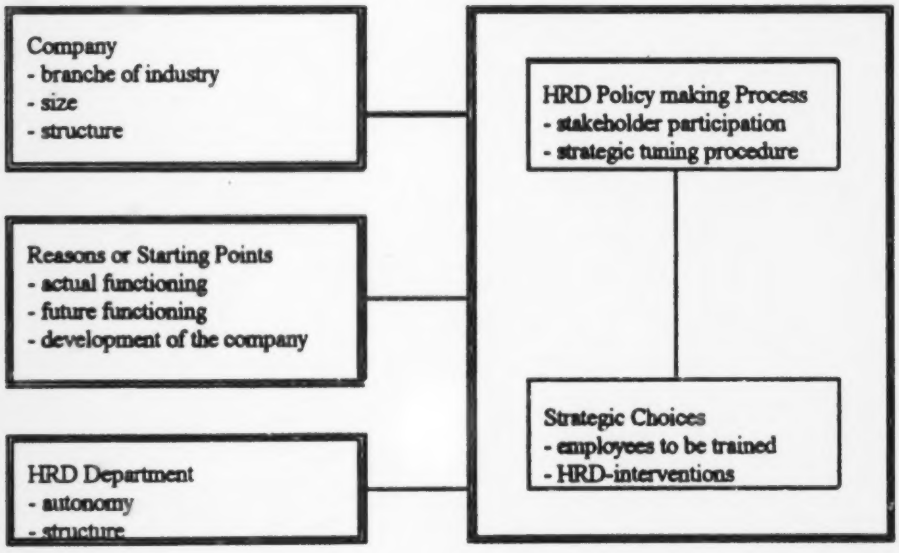
concerns the reasons or starting points for the HRD policy making process and determining the HRD objectives. These reasons may be divided into three categories, related to the actual functioning of employees, departments or the company as a whole, the future functioning of the employees (career planning and development) and the development of the company as a whole, supporting for example changes in policy, product or production (see Brinkerhoff, 1987; Rossett, 1987, Wognum, 1994). The HRD policy making process leads to strategic choices, i.e. the choice of employees to be trained or educated, and the choice of needed HRD interventions and activities. Refering to Mintzberg six categories of employees on the various levels in the company are distinguished: top, middle and lower executive management, employees in the operating core, employees in the supporting staff, and others (Mintzberg, 1983). A group of eight categories of possible HRD interventions, broken down by subject category, is derived from the literature (among others: CBS, 1993). The categories are: management techniques, production process, social and learning skills, health and security, automation and computerization, marketing and public relations, accounting and finance, and others. The HRD policymaking process is likely influenced by characteristics of the company and the HRD department (Dekker & Wognum, 1994; Ford, Major, Seaton and Krifcher Felberc, 1993). A characteristic of the company is the branche of business, in order to characterize the kind of company and to some extent the kind and complexity of the core processes (Van Hulst & Willems, 1992; Dekker & Wognum, 1994). Another characteristic is the structure. In centralized companies the starting points for the HRD policy-making process and the resulting strategic choices may differ from those companies with another, more decentralized structure (Wognum, 1991). A third characteristic is the size of the company (Mulder, Akkerman & Bentvelsen, 1988). Mintzberg also pointed out that the size of the company is related to policymaking processes (Mintzberg, 1983). The autonomy of the HRD department (independent or placed under the responsibility of other groups) seems to be an important characteristic of the HRD department, so is also the structure of the HRD department. A centralized department normally covers the whole organization, a decentralized department covers a unit or part of the organization and is mostly supported by a central HRD department (London, 1989).

In figure 1 the conceptual framework is visualized.

Figure 1: conceptual framework



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Research Questions

In this study it is hypothesized that each category of problems or developments in specific companies, seen as reason or starting point for HRD, requires different HRD policy making processes and leads to different strategic choices. Strategic choices become visible in the effectuated HRD interventions in companies. Thus, the problem statement leads to the following main research question: ***Which (in 1993) realized HRD interventions may be discerned in companies, what was the reason behind these interventions and in what way do HRD policy making processes vary?***

The following questions are derived from the main research question:

1. What strategic choices (categories of trained or educated employees and categories of HRD interventions) are made in companies?
2. What was the reason or starting point behind the realized strategic choices in companies?
3. Which stakeholders are involved in the HRD policy making process and what is the perception of the responsible HRD official of the strategic tuning procedure (the so called tuning perception)? (In this explorative study the procedure itself is not part of the research.)
4. Is there a relationship between those realized strategic choices and the tuning perception of the responsible HRD official?
5. Do characteristics of the company and HRD department explain some of the results?

Methodology

In order to answer the research questions a survey was carried out in the first months of 1994. In order to collect the data companies with more then 500 employees were selected from a national database. Another selection criterion was the branche of business, i.e. Industry, Transport, Storage and Communication (Transport), and Banking, Insurance Business and Commercial Services (Banking). Thus 199 companies in total were selected. Data were collected by means of a questionnaire sent to the responsible HRD officials working in these 199 companies. The questionnaire was designed to collect information derived from the above described conceptual framework, i.e. information on (1) the employees being trained or educated (grouped into the aforementioned six categories), (2) the performed HRD interventions or activities (classified into the earlier mentioned eight categories), but also on (3) the problems or developments which give rise to the HRD policy making process (three categories) and (4) some characteristics of the company (branche of business, number of employees, structure of the company) and the HRD department (autonomy and structure) in which the HRD policy making process has taken place. Also four questions were formulated to gain information about the strategic tuning procedure (concerning the participants in and the perception of the procedure). The questions had precoded answers. There were a total of 127 responses of which 106 were usable for the analysis. In order to answer the stated research questions, descriptive statistics and analysis of variance were used to analyse the data.

Results

The survey was intended to gain insight in some aspects of the HRD policy making process and resulting strategic choices in the studied companies, by answering the aforementioned research questions. The analysis of the results on the variable 'other HRD interventions' gave reason to construct a ninth subject category, namely 'quality'.

What strategic choices (categories of trained or educated employees and categories of HRD interventions) are made in companies?

In table 1 the numbers and percentages are presented of the strategic choices the companies have

made. Most of the 106 companies have arranged HRD activities for the middle management (94,3%), the lower management (93,4%) and the employees in the operating core (94,3%). Fewer companies train or educate the topmanagement (56%) or the supporting staff (51,9%). Mainly the tactical and operational level in companies were considered for HRD activities. This is confirmed by looking at the number of subject categories of HRD interventions. The research findings indicate that middle management was trained in the average of 4.20 subject categories (M=4.20, SD=1.96). Also the lower management (M=3.94, SD=1.81) and the employees in the operating core (M=3.17, SD=1.62) have received training in more then one subject category. Other employees on the contrary have got training in less subject categories (top management, M=1.08, SD=1.39; supporting staff, M=1.16, SD 1.62; other groups M=.32, SD=.97). Table 1 shows those subject categories of HRD interventions related to the several categories of
employees. Topmanagement was mainly trained or educated in management techniques (in 80.4% of the 56 companies this was the case). Other subject categories were less relevant. The four main categories for the middle management are management techniques (92%), social and learning skills (75%), automation and computerization (65.0%) and marketing and public relations (55%). Lower management was mainly trained in management techniques (78.8%), social and learning skills (76.8%, automation and computerization (64,6&), and unlike middle management, HRD programs in production process (48.5%) and health and security (48.5%) equally. Of all categories of employees, those in the operating core mainly received HRD programs on production processes (in 73% of all companies which trained these employees). The main categories of HRD interventions per group of employees seem to be related to the specific tasks each group has to perform in the company. The other HRD interventions are likely less related to these specific jobs and tasks.

Table 1: Numbers and percentages of strategic choices in companies (multiple response)

	N	%	Categories of HRD interventions*)								
			mng	pro	soc	hea	aut	mar	acc	qua	oth
			%	%	%	%	%	%	%	%	%
categories of employees											
top management	56	52.8	80.4	8.9	28.6	12.5	8.9	23.2	25.0	5.4	12.5
middle management	100	94.3	92.0	36.0	75.0	48.0	65.0	55.0	47.0	8.0	20.0
lower management	99	93.4	78.8	48.5	76.8	48.5	64.6	42.4	38.4	5.1	18.2
operating core	100	94.3	10.0	73.0	41.0	50.0	64.0	39.0	35.0	5.0	20.0
supporting staff	55	51.9	18.2	14.5	36.4	27.3	43.6	30.9	23.6	5.5	23.6
others	18	17.0	16.7	16.7	33.3	33.3	11.1	27.8	16.7	-	33.3

(N=106)

*) Categories of HRD interventions
mng : management techniques
pro : production process
soc : social and learning skills
hea : health and security
aut : automation and computerization
mar : marketing and public relations
acc : accounting and finance
qua : quality
oth : others

What is the reason or starting point for the HRD policy- making process and resulting strategic choices?

Table 2 gives percentages per reason or starting point for the HRD policy making process. In

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companies which have trained top management and members of the supporting staff the main reason was the development of the company as a whole (respectively 57.1% and 58.2%). These are indeed the categories of employees charged to manage and support the renewal processes. In companies where middle and lower management were trained this reason turned out to be important too (69.0% and 59.6%) but it was not the main starting point for training these groups of employees. As for employees in the operating core the reason of the actual functioning of employees stood central (middle management 87%; lower management 88.9%; operating core 88%). The actual functioning is important, in order to produce the products or services of the company and effectuate the performance standard of the company.

Table 2: Numbers and percentages of starting points for strategic choices in companies (multiple response)

			*) Starting points for HRD policy-making			
	N	%	act %	fut %	dev %	oth %
categories of employees						
top management	56	52.8	32.1	39.3	57.1	12.5
middle management	100	94.3	87.0	83.0	69.0	5.0
lower management	99	93.4	88.9	78.8	59.6	4.0
operating core	100	94.3	88.0	69.0	44.0	4.0
supporting staff	55	51.9	47.3	41.8	58.2	3.6
others	18	17.0	38.9	44.4	27.8	16.7

(N=106)

*) Starting points for HRD policy-making
act : actual functioning of employees, departments or the company as a whole
fut : future functioning of employees (career planning and development)
dev : development of the company as a whole
oth : others

Which stakeholders are involved in the HRD policy making process and what is the perception of the responsible HRD official of the strategic tuning procedure (the so called tuning perception)?

Table 3 presents an overview of the stakeholders involved in the tuning procedure. In 83% of all 106 companies the supervisor of the trained employees was involved in the tuning procedure in order to adjust the HRD activities to problems and developments in the company. Middle management was involved in 68.9% and the employees to be trained in 52.8%. Notice that in 73.6% of the companies top management is involved in one way or another. In a great deal of the companies several of the given categories of stakeholders were involved. This is an indications of the involvement of participants from each of the three levels in the company.

Table 3: Numbers and percentages of companies with the mentioned stakeholders involved in the tuning procedure (multiple response)

	N	%
involved stakeholders		
other training official	35	33.0
employees to be trained	56	52.8
supervisor	88	83.0
middle management	73	68.9
top management	78	73.6
others	13	13.3

(N=106)

Table 4 presents an overview of the tuning perception of the applied HRD officials. The tuning perception means the perception of the respondents of the performed strategic tuning procedure. This procedure was broken down into three indicators, concerning the improvement of stakeholder involvement and the tuning process itself, and also the willingness of management to be more involved in the tuning procedure. In this study the perception of respondents of all the three indicators was examined. Cronbachs Alpha of the tuning procedure was .76. An equal percentage of the respondents is discontent or almost content with the strategic tuning procedure (22.6%). This means that at least one of the indicators of the tuning procedure needs some improvement. A greater percentage of the respondents is more discontent (33%) and thinks of an improvement of all the three indicators of the tuning procedure. Also 23% is content with the strategic tuning procedure in their companies. Table 4 shows that the responses are equal divided over the four indicators of the tuning perception.

Table 4: Tuning perception in companies

	score	N	%
tuning perception			
more discontent	3	35	33.0
discontent	2	24	22.6
almost content	1	24	22.6
content	0	23	21.7

(N=106, M=1.67, SD=1.15)

Is there a relationship between the realized strategic choices and the tuning perception of the responsible HRD official?

Table 5 presents differences in tuning perception between companies. Only the significant differences at the .05 level are presented. This was not the case in companies where HRD interventions were developed in order to train some specific category of employees. Significant differences were found when companies have chosen to offer some specific HRD interventions. In companies for example

where employees were trained in management techniques, respondents were found more discontent (M=1.75, SD=1.13) than in companies which did not offer these kind of HRD programs (M=.62, SD=.91) (F=7.55, p<.025). The same is the case with HRD programs on social and learning skills (F4.26, p=<.05), marketing and public relations (F=8.83, p=<.025) and accounting and finance (F=4.71, p<.05). Also a significant difference in tuning perception was found between companies where company development was the reason for HRD policy making or not. In companies where this reason stood central respondents were more discontent (M=1.78, SD=1.13) than in companies with other starting points (M=1.15, SD=1.11) (F=4.73, p<.05). Perhaps a more tailored tuning procedure is needed in companies with this starting point and the four mentioned categories of HRD interventions, than in companies with other starting point and HRD programs?

Table 5: differences in tuning perception between companies if strategic choices and starting points are existing or not

	Tuning perception if existing		Tuning perception if not existing			
Variables	M	SD	M	SD	F	P
category of HRD interventions						
management techniques	1.75	1.13	.62	.91	7.55	.00**
social and learning skills	1.77	1.16	1.16	.98	4.26	.04*
marketing and public relations	1.90	1.11	1.22	1.09	8.83	.00**
accounting and finance	1.87	1.09	1.38	1.18	4.71	.03*
starting points						
development of the company	1.78	1.13	1.15	1.11	4.73	.03*

* P < .05
** P < .025

Do characteristics of the company and HRD department explain some of the results?

The HRD policy making process is likely influenced by characteristics of the company and the HRD department. The branche of business for example characterizes to some extent the kind and complexity of the core processes. Does this characteristic explain some of the strategic choices in companies? Table 6 reveals some of the differences found in those choices between companies of several branches of business. Only the significant differences at the .05 level are presented. In the Industry branche for example more companies have trained the middle management (M=.96, SD=.17) than in the Banking branche (M=.75, SD=.46) or in the Transport branche (M=.94, SD=.23) (F=3.25, p<.05). Also the same kind of differences between branches were found when lower management was trained (F=.424, p<.025) and employees in the operating core (F=3.25, p=<.05). In the Industry branche more companies did offer HRD programs on production process (M=.82, SD=.38) than in the Banking branche (M=.55, SD=.50) or the Transport branche (M=.62, SD=.51) (F=4.41, p<.01). This was also the case with programs on health and security (F=5.17, p=<.025).

On the contrary, the Banking branche offered significantly more HRD programs on marketing and public relations (M=.80, SD=.40) than the Transport Branche (M=75, SD=.46) or the Industry

branche (M=56, SD=.49) (F=3.20, p=<.05). Thus the results indicate the Branche of Business as an important characteristic. Another characteristic is the structure of the company, centralized or for example decentralized. Also this characteristic turned out to be an important one. Top management was trained significantly less (F=4.25, p=<.05) in companies with a centralized structure (M=.40, SD=.49) than in companies with other structures (M=.61, SD=.49). This characteristic is important too in the case of some HRD intervention categories, i.e. accounting and finance (F=5.05, p<.05) and quality (F=5.07, p=<.05). The size of the company has influenced the offering of HRD programs on health and security, marketing and public relations, and other subject categories. Companies with more than 1000 employees for example offered more marketing programs (M=.86, SD=.35) than companies with 750-1000 employees (M=.54, SD=.50) or with less than 750 employees (M=.42, SD=.50) (F= 11.49, p= <.025).

Table 6: Differences in strategic choices between the companies per branche of business

	Industry		Transport		Banking			
Variables	M	SD	M	SD	M	SD	F	p
category of employees								
middle management	.96	.17	.75	.46	.94	.23	3.25	.04*
lower management	.98	.12	.75	.46	.88	.31	4.24	.01**
operating core	.96	.17	.75	.46	.94	.23	3.25	.04*
category of HRD interventions								
production process	.82	.38	.62	.51	.55	.50	4.41	.01*
health and security	.80	.39	.50	.53	.52	.50	5.17	.00**
marketing and public relations	.56	.49	.75	.46	.80	.40	3.20	.04*

* P < .05
** P < .025

Characteristics of the HRD department however did not show any significantly different strategic choices. Also no significant differences at the .05 level were found in tuning perception influenced by characteristics of the company and HRD department.

Conclusion

The effectuated strategic choices in companies, i.e. the choice of employees to be trained or educated, and the choice of the needed HRD interventions, are the outcomes of the foregoing HRD policy making process. The research findings gave an indication of differences in the effectuated strategic choices. The founded emphasis on the tactical and operational level in companies confirm earlier research findings (Wognum, 1994). The research findings also indicate that the policy making proces is capable of improvement. A great deal of the respondents is not content with the strategic tuning procedure, and thinks of an improvement of some or even all indicators of this procedure. Perhaps this has something to do with the main reason or starting point for the HRD policy-making process in companies. The findings indicate differences in the main starting point for the several categories of employees. In companies werein top management and members of the supporting staff were trained the main reason was the development of the company as a whole. For middle and lower management and employees on the operating core the main reason was in the actual functioning. But a lot of

changes in policy, product or production in companies do occur, and this makes the development of the company a very important starting point, perhaps even more than the other two mentioned reasons (actual and future functioning). Also a significant difference in tuning perception was found when company development was the reason for HRD policy making or not. In companies where this reason stood central respondents were more discontent than in companies with other starting points. A more tailored tuning procedure is probibly needed in companies with this starting point and the four mentioned categories of HRD interventions, than in companies with other starting point and choosen HRD programs. The research findings also point to characteristics of the company (mainly the branche of business and the size of the company) causing differences in strategic choices, and therefore probably in the foregoing strategic tuning procedure itself. These findings justify the further study of the HRD policy making process in companies in search of effective types of HRD policy making processes in companies. This is necessary in order to realize effective HRD interventions and improve the performance of individuals, departments or the company as a whole.

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The Impact Map: A Versatile Tool to Link HRD with Business Outcomes

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HRD professionals are looking for ways to make connections between their efforts and business results. The impact map is a tool that illustrates links between the skills and knowledge learned in HRD programs and actual behaviors on the job. Further, it displays the results of those behaviors and relates those results to business objectives. The impact map can be used in the needs assessment, design, implementation, and evaluation stages of an HRD intervention.

Cost cutting and corporate restructuring have hit most businesses, forcing them to make painful decisions regarding staffing and budgets (Zwolfer, Thomas, Institute of Management Studies, York, & Henderson-Peter, 1994). What can human resource development (HRD) professionals do to help? They can become true business partners by aligning their programs with business needs, problems, or opportunities and ensure that these links are clearly understood by management before the programs are implemented (Brinkerhoff, 1987; Brinkerhoff & Gill, 1994; Filipczak, 1994; Kramlinger, 1993; Robinson & Robinson, 1989; Swanson, 1994).

Key questions facing the HRD practitioner include: How can I work collaboratively with business managers to maximize the benefits of HRD programs? What theories, models, and tools are available to help me link HRD efforts with business outcomes? The purpose of this paper is to discuss the Impact Map as a versatile tool for HRD practitioners. This discussion will integrate information from systems theory, instructional design theory, performance technology, transfer of training research, strategic alignment processes, and consulting models, as well as knowledge gained from practical experience.

Literature Summary

Although there has been increased discussion in the last few years about applying systems theory in organizations (Senge, 1990; Wheatley, 1992), systems thinking has long been the foundation for the field and practice of human resource development. Instructional design models are system models, indicating the interrelationship between analysis, design, development, implementation, and evaluation of learning systems. Human performance technology, the field of improving individual and organizational performance, is based on systems theory in a number of ways (Stolovitch & Keeps, 1992). For one, it looks beyond training as the automatic solution for all workplace performance problems. Performance improvement professionals recognize that there are many interrelated factors that affect an individual's job performance, including skill, knowledge, incentive, practice, and feedback (Mager & Pipe, 1984). They take a systems view of diagnosis, recognizing that human performance is affected by factors at three levels: (1) the job/performer level, related to job outputs, (2) the process level, related to business processes and work flow, and (3) the organization level, where strategy provides the direction and organizational structure (Rummler & Brache, 1990).

Performance improvement professionals recognize that a good analysis is required for a good solution (Swanson, 1994). Whether the diagnosis is being conducted for present problems or for future plans, it involves identifying the current performance and the desired performance and the

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reason for the gap. Once the cause of the gap is understood, then solutions can be identified. Performance improvement professionals also believe that if the cause can be from a number of interrelated sources, the solution will probably take a systems approach as well. Learning interventions are appropriate solutions for a lack of skill or knowledge, however, a learning intervention in isolation is seldom the answer. Even the best learning intervention requires organizational support before, during, and after the event. Broad and Newstrom (1992) describe many strategies for enhancing the transfer of learning back to the job and identify specific responsibilities for the trainee, trainer, and trainee's manager.

In addition, performance improvement practitioners acknowledge a system or process view of individual and organizational performance. They distinguish between workplace behavior and accomplishment, or the outcome of the behavior (Gilbert, 1978), and suggest that we do not just watch what people do on the job but study the result of what they do as well. Performance improvement professionals look at various levels of output; an individual performs a particular task which results in a task output, which leads to a job output (the result of several tasks), and finally to a process or function output (the results of multiple job outputs) (Rummler, 1987). They strive to improve organizational effectiveness by improving individual effectiveness. They take a strategic view, by aligning human resource development plans with human resources plans with overall business plans (Rothwell & Kazanas, 1994). According to Kaufman (1992), "Strategic thinking and strategic planning require more than good intentions. Mindsets, approaches, and systems must be aligned for the success of the organization and its members" (p. 107).

HRD practitioners are striving to become true business partners. To do this, they need a solid background in the theory and practice of human resource development, an understanding of business issues, along with a collaborative approach to consulting (Block, 1981). Collaboration involves joint problem-solving, whereby HRD practitioners apply their special skills to help managers solve problems. A collaborative approach is beneficial in that it provides for maximum use of people's resources - both the consultant's and the client's - and it spreads the responsibility for success, failure, and implementation.

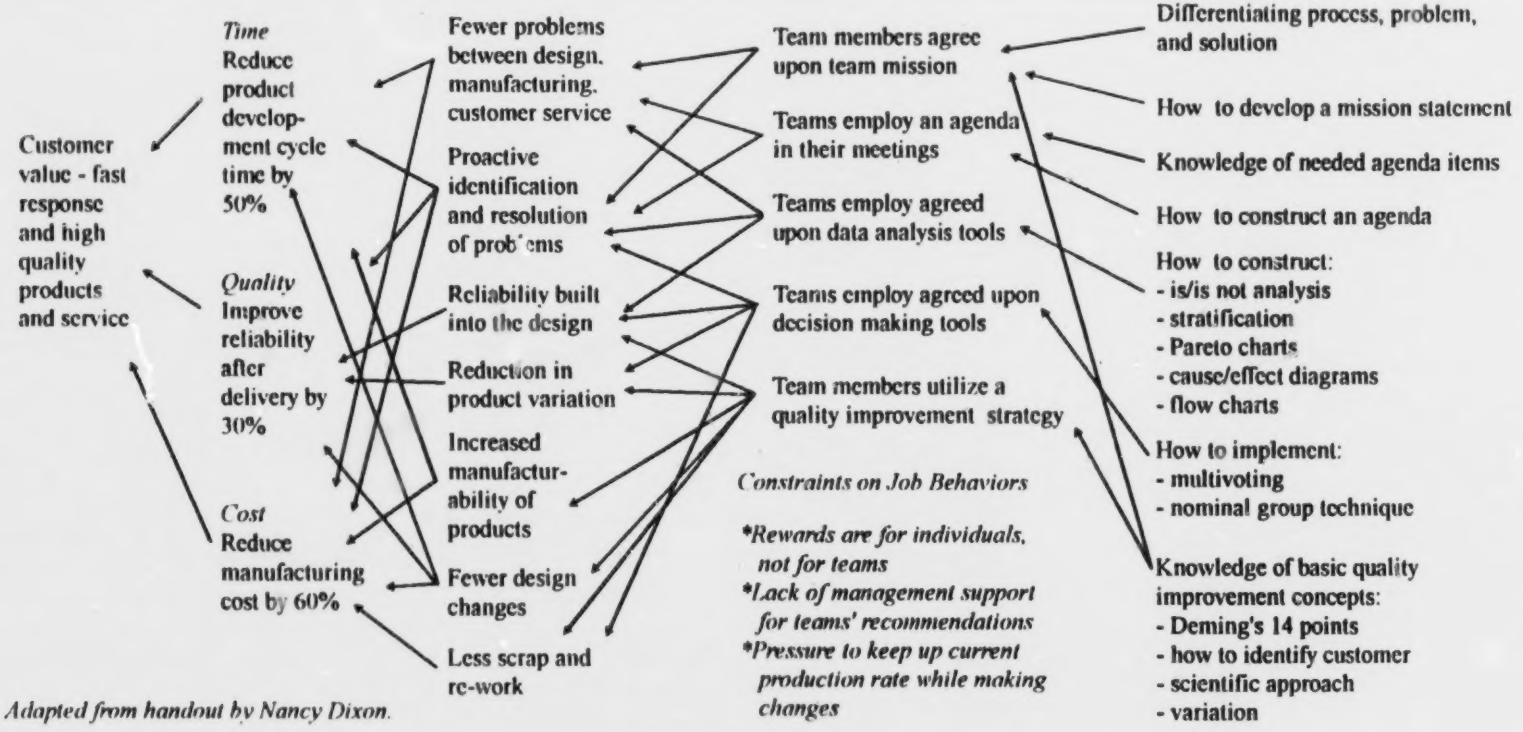
The impact map, developed and described by Brinkerhoff & Gill (1994), is a tool used in the diagnosis phase of performance improvement that creates a shared vision among stakeholders. It is a graphical representation of the alignment of learning interventions with strategic organizational goals, developed collaboratively by HRD professionals and clients. It illustrates, in a step-like fashion, the connections between the organization's strategic goals, business objectives, job success indicators, job behaviors, and the skills, knowledge and attitudes needed to perform the behaviors. (See Figure 1.) The visual depiction of the performance improvement process helps all of the stakeholders (trainees, supervisors, senior executives, HRD specialists) develop a common understanding of the role of learning interventions in improving business outcomes. The map provides the foundation for the design of the intervention and sets the criteria for evaluating the program at four levels: reaction and learning (after the program), behavior (job behaviors after the program), and results (job success indicators and business objectives) (Kirkpatrick, 1975).

Impact Mapping

The impact map is useful in analyzing performance needs and establishing clear and measurable learning goals that are linked to key business outcomes. While it is not the only tool to be used in the assessment phase, the impact map can be very powerful. Although stakeholders find the connections intuitively obvious, the process of creating the map and seeing chain of logic on paper often creates an "aha" experience.

The impact map is a versatile tool. Maps can be developed at the individual, process, or organization level of workplace performance. At the individual level, a specific job task can be mapped, such as an associate checking out customers in a retail store. The desired job behaviors as well as the indicators of successful completion of the task will be identified. Connections will be made from the success indicators up to business objectives and the organization's strategic goal. Working down from the job behaviors, the skills, knowledge, and attitudes required to perform

Figure 1. Impact Map
Developing Products with Self-Managed Cross Functional Teams
Problem-Solving Skills


Strategic Goal
Business Objectives
Job Success Indicators
Job Behaviors
Skills, Knowledge, Attitudes (SKA)
Customer value - fast response and high quality products and service
Time
Reduce product develop-ment cycle time by 50%
Quality
Improve reliability after delivery by 30%
Cost
Reduce manufacturing cost by 60%
Fewer problems between design, manufacturing, customer service
Proactive identification and resolution of prob'ems
Reliability built into the design
Reduction in product variation
Increased manufactur-ability of products
Fewer design changes
Less scrap and re-work
Team members agree upon team mission
Teams employ an agenda in their meetings
Teams employ agreed upon data analysis tools
Teams employ agreed upon decision making tools
Team members utilize a quality improvement strategy
Constraints on Job Behaviors
*Rewards are for individuals, not for teams
*Lack of management support for teams' recommendations
*Pressure to keep up current production rate while making changes
Differentiating process, problem, and solution
How to develop a mission statement
Knowledge of needed agenda items
How to construct an agenda
How to construct:
- is/is not analysis
- stratification
- Pareto charts
- cause/effect diagrams
- flow charts
How to implement:
- multivoting
- nominal group technique
Knowledge of basic quality improvement concepts:
- Deming's 14 points
- how to identify customer
- scientific approach
- variation

Adapted from handout by Nancy Dixon.

those job behaviors can be identified.

Maps can also be developed at the process level. For example, a map on project management would outline the expected job behaviors and the relationships between the roles of project team members, team leaders, and team sponsors. The success indicators and links to business objectives would be identified as well as the required skills, knowledge, and attitudes for the various roles.

At the organizational level, the impact map serves as a form of a vision statement. At this level, the map would show general categories of skills, knowledge and attitudes that would be necessary to fulfill the vision. The job behavior category would be similar to describing the organizational culture required to fit the strategy and meet the goals. (See Figure 2.)

Whereas impact maps are usually created to display the *desired* state, a parallel version can be developed which represents the *actual* state in the job success indicators, job behaviors, and skills, knowledge, and attitude categories. This comparison will help identify the gaps between the current and the desired situation and help clarify the problem.

Perspective and flexibility are key elements when creating a map. It is important to keep in mind that the map is a tool to help analyze performance problems and show the connections between individual performer and organizational goals. It should contain as much information as is useful for this purpose and not become an end to itself. Depending on the scope of the situation and the business terminology, it may make sense to change the names of the categories, combine categories, or add a category, such as business strategy.

One element that can be added to the impact map that greatly increases its power is a section on organizational constraints to performing the job behaviors (Dixon, 1991). After the map has been created, this section answers the questions: If these people now have the required skills, knowledge and attitude (envision that they have successfully completed the learning intervention), what would hinder them from applying those skills on the job? What would be the barriers to them performing these desired behaviors back on the job? Completing this section in the analysis stage involves the stakeholders in trouble-shooting the issues that will likely affect the transfer of learning. This analysis uncovers concerns that often require solutions beyond the learning intervention, but issues that must be addressed. Identifying training as well as non-training needs reinforces the systems approach to the performance problem and educates the stakeholders about the role of the learning intervention in the big picture of improving organizational effectiveness.

Stakeholders who develop impact maps them find ways to use them. The logic is very powerful and the maps tend to sell themselves. Maps can be provided as a handout in the introduction to a training session to show the participants the connections to business objectives. Maps can lead to the development of other maps and learning interventions, such as a version for the managers or project leaders of the original target population which outlines the "supporting" job behaviors, success indicators, and skills, knowledge, and attitudes required of them for the original initiative to be effective. Maps can set the foundation for the development of an evaluation strategy. It is very encouraging to have the stakeholders "see" this and decide that they want to use the map as a framework for measuring results.

The map can be used in two directions. Going from the big picture down to the job behaviors needed to make that happen, it can be used as an assessment tool to uncover a lack of required skill and knowledge. It can also be used in the other direction as well, to evaluate current learning interventions for their connections to organizational goals. Once business objectives are identified, any HRD intervention can be plugged in and "mapped" to see if and how it is connected with business objectives.

Understanding the concept of the impact map can be very helpful for an HRD professional when confronted with a workplace performance problem. Performance problems surface in many ways: a changing business strategy, a lack of a certain behavior on the job, or a drop in a success indicator, such as customer satisfaction. The impact map helps the client and the HRD specialist better understand the problem. It provides the framework to display the actual and the desired, the known and the unknown, and the connection between individual and organizational performance.

The impact map is a powerful and versatile tool. Whether you are conducting a needs

Figure 2. Impact Map
Engineering Training & Education Process Logic

Strategic Goal	Business Objectives	Job Success Indicators	Job Behaviors
Continuously provide our customers with the highest quality product & service in the world. 1. Improve overall product quality 2. Reduce inventory 3. Reduce bureaucracy 4. Improve product development cycle	Provide the systems & component design, development, & technical support as requested of production & field service. Serve as central resource to assure technical preeminence in all major technology ares including engineering, materials, manufacturing, quality & computation systems. Fulfill the product development & technology needs of customers & support product & business components to meet company objective.	*Technical Excellence* Released designs meet expectations Logistics support & manufacturing capabilities are considered during product definition Analysis methods are matured & verified Rework, redesign, repetitive activities are the exception Products require NO special procedures to remain in operation Overall systems understanding is demonstrated Internal & external customers are satisfied *Business Planning* Technical requirements, design & manufacturing technology are in hand at the start of the design process Schedule & cost meetings are for future planning Programs are executed in a timely manner within budget No need for last minute heroic recoveries *Work Environment* Communication flows effectively in all directions Confidence & work enjoyment are shared values Work activities are recognized as processes Cross functional teams constitute our natural environment Employees are dedicated & encouraged to improve & standardize work processes Measurements support & encourage desired behavior Broadly accepted recognition & reward system Career planning is well developed	*Leadership* All in organization are constantly seeking process improvement Clear understanding of company goals across organization Efforts are focused on the business mission, not personal gain No empires are created Boundaryless thinking fosters teamwork Management is supportive & process oriented, not focused on output review Management is participative & leading, not reactive & autocratic *Teamwork* Good ideas are used regardless of the source Various department members work as a team to iterate on the best overall business solution Cross-functional teams empowered by their management are defining product requirements Organization works as a unified team to achieve objectives Team members communicate across functional lines Design engineers produce designs & analyses of them & obtain cross functional support Teamwork within & across organization *Communicating Process Needs* No barriers to communication & information sharing Everyone communicates well-internally to gain from each other's experience-externally to keep abreast of the new developments in the field Everyone knows their client's needs & ultimate goal & how those factors relate to their own work Listening to both internal & external customers Engineers have an understanding of the basis for the input they receive Clients & sources understand each other's needs, processes, results *Sharing Learning* Experts are identified & pass on/share their expertise Areas of needed training are identified & remedied Individuals are trained for their jobs & provided coaching and support needed to do them

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assessment at the organization, process, or individual level, the impact map is a graphical way to frame the performance problem and show its relationship to organizational goals. When the map is developed collaboratively with the stakeholders, it creates a sense of shared ownership of the performance problem as well as the system of solutions needed to meet the business objectives. It helps the HRD professional become a true business partner.

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Strategic Quality Training: The Transformation of the Connecticut State Department of Labor

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Competitive organizations have made fundamental changes in business practice to improve productivity and customer service. To achieve these goals the Connecticut Department of Labor has designed a comprehensive training plan that integrates training and on-the-job performance to promote the agency's strategic mission. Utilization of the Strategic Quality Training model provides a long term strategy that (a) involves all stakeholders in the training process, (b) reinforces workplace application of training, and (c) evaluates the impact of training interventions.

To remain competitive in a global economy, organizations in the 1990's have made fundamental changes in business practice. Successful corporations have adopted new organizational strategies for production systems and new approaches for the management of technology (Dertouzos, Lester, & Solow, 1989). These organizations have focused on developing production systems to enable them to become low cost producers of high quality products and services while emphasizing quality customer service. To support the implementation of new production strategies these companies have redesigned work structures. Flat, flexible organizational designs have replaced the traditional hierarchies to encourage participative decision making which fosters the development of capable, committed workers (McLagan, 1989).

These corporate changes have provided the impetus for Human Resource Development (HRD) divisions to shift from reliance on a traditional organizational role emphasizing the design and delivery of classroom training to reliance on an expanded organizational role emphasizing the creation of learning systems within the organization (Dertouzos, Lester, & Solow, 1989). Competitive organizations rely on HRD professionals to provide employees with the knowledge, skills, and abilities necessary to sustain profitable, competitive organizations. Effective training strategies help employees develop their capacities to plan, to judge, to collaborate, and to analyze complex systems. Ensuring employees' capacities to flexibly handle a variety of job tasks, unpredictable work problems, and changing technologies will increasingly become the primary training goals.

Because continuous improvement of job performance will be a standard business requirement, there will also be an increased reliance on job rotations, career ladders, and training programs to reinforce learning (Senge, 1990). Successful companies will integrate thinking and learning at all organizational levels to ensure adaptability and generativity necessary to increase productivity (Senge, 1990). As a result, future training will incorporate more on-the-job training and retraining strategies to ensure learning over an employee's entire working life (Peters, 1988).

This shift in purpose presupposes an increased commitment to HRD activities. All HRD training strategies will be expected to promote an organization's strategic mission statement and corresponding goals. The HRD division benefits from this arrangement with greater visibility, greater leverage, and an enhanced strategic organizational role (Broad & Newstrom, 1992). In return, HRD divisions must justify the huge corporate investment in training. Successful training divisions will implement strategic plans to ensure the development of learning organizations to create, to acquire, and to transfer knowledge while modifying behavior to reflect new knowledge

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and insights. Increased accountability challenges HRD professionals to demonstrate state-of-the-art expertise as well as a thorough understanding of new technologies which support new job requirements. Finally, HRD staff must prove that the costly training investments produce improved job performance, increased productivity, and greater contributions to the organization.

To date, however, few corporations have integrated training and daily work activities. Corporate training strategies primarily focus on classroom skill development despite corporate demand for integrated training strategies. In particular, the absence of appropriate long term transfer of training strategies (to promote the utilization of the knowledge, skills, and behaviors learned during training to improve job performance; Baldwin and Ford, 1988) hampers HRD professionals' attempts to provide superior training packages. To promote transfer of training the Connecticut Department of Labor (DOL) began implementing a comprehensive training plan to ensure the integration of training and job performance in 1991. DOL's notable success (explained in the following section) suggests that long term transfer of training can be accomplished by combining core total quality management (TQM) principles with core transfer of training principles to ensure good business practice and customer satisfaction.

Reorganization and Training for Connecticut Department of Labor

Based on data gathered from a customer survey of Connecticut workers and Connecticut employers, the Department of Labor (DOL) began a major reorganization to ensure responsiveness to changing customer needs. Survey results suggested that Connecticut employers were dissatisfied with the service they received from DOL. Specifically, employers requested a greater range of services from a single DOL representative. These employers wanted customized service that met their changing, individual business needs with rapid turnaround times. In addition, individual customers were dissatisfied with the Employment and Unemployment services provided by DOL. Surveyed customers wanted to be served promptly, to interact with fewer employees to implement core services, to complete their registration for services in a single visit, and to obtain the right answers to their questions when first asked.

Reorganization to Meet Customer Needs. In response to customer requests a cross section of employees designed a new organizational structure to transform the agency into a customer-oriented, high performance organization committed to continuous improvement. To improve service delivery DOL replaced the hierarchical structure (14 layers of responsibility) with a flatter structure (6 layers of responsibility). To emphasize the change in business focus the agency's historic mission "*to protect and to promote the interests of the working men and women of Connecticut*" was expanded to include five goals related to the reorganization: (a) to improve customer service with one-stop shopping, (b) to reduce hand-offs (the number of times each client met with different employees), (c) to improve customer support services to meet the needs of internal customers, (d) to empower front-line workers to make decisions, and (e) to become a model employer/agency. Finally, the reorganization restructured the job responsibilities of all workers to advance the new organizational objectives. For example, the reorganization required workers previously responsible for providing either Unemployment Insurance services (e.g., processing unemployment insurance benefits) or Employment services (e.g., registering customers for work) to combine both client services in an integrated single interview session.

Support for the Reorganization. The agency's administration also made several commitments to DOL employees to encourage their support for the reorganization. First, there would be no layoffs as a result of the reorganization. In fact, employees were assigned new job responsibilities without a loss of pay even if their new positions were in a lower job classification. Second, a new job classification system was designed to promote upward mobility and to compensate employees for the demonstration of the ability to perform employment service job duties as well as unemployment insurance job duties. Third, DOL's management team modeled effective labor relations by engaging the union in a partnership to ensure a smooth transition. This partnership included the establishment of a Labor Management Committee to provide the union leadership with a voice in the reorganization. In addition a joint Management/Labor

Training Committee was created to make policy decisions about the agency's training initiatives. Finally, DOL management promoted a comprehensive cross training project to provide front-line employees with the job skills necessary to integrate Employment Services and Unemployment Insurance Services in a single interview with the customer.

Needs Assessment. To promote the goals of the agency's reorganization, the Staff Development unit conducted a needs assessment to identify the knowledge, skills, and abilities front line workers needed to perform the new integrated jobs. The needs assessment determined the gap between current skills of front-line staff and the skills that front-line staff would need after the reorganization was completed. In addition, the Staff Development unit used this information to develop a "pay for skills" cross-training program for 450 front-line workers incorporating training to standardize procedures and evaluations to test employees' abilities to perform the new jobs.

An eight person representative committee designed the needs assessment. Job incumbents served as representatives of the three different sized offices (small, medium, and large). Committee members were also chosen to balance Employment Service expertise, Unemployment Insurance expertise, and Employment and Training expertise. In addition, the committee included a Job Service manager and an Unemployment Insurance manager. Incumbents also were chosen to represent the union's perspective.

The committee (a) designed a Job and Task Analysis document as well as a Job and Task Analysis Worksheet, (b) piloted and revised the Job and Task Analysis Worksheet, (c) gathered data using the Job and Task Analysis Worksheet, (d) revised the Job and Task Analysis document based on the analysis of collected data, (e) presented the final Job and Task Analysis document to the Labor Management Committee and to staff in the Job Centers, and (f) used the Job and Task Analysis document to outline an overall three year training plan. To honor the agency's commitment to employee involvement, all 450 individuals impacted by the training process also participated in the needs assessment process.

The Three Phase Training Plan

The three phase training, which included formal evaluations to assess learning, was designed to teach front line staff how to integrate Employment Service tasks and Unemployment Insurance tasks in a single job interview. The training was designed to reduce customer hand-offs and to improve customer service by teaching training participants how to perform basic job tasks utilizing uniform procedures. The most critical, most frequently performed job tasks for the Community Service Representative I job were included in the Phase One training. The most critical, most frequently performed job tasks for the Community Service Representative II and Community Service Representative II will be taught in Phase Two and Phase Three training. To successfully complete each phase of the training participants had to successfully demonstrate their ability to use the training to complete short answer questions and job simulation exercises. In addition, all job tasks not included in the formal training plan would be learned on the job as front line workers performed their new jobs. The three phase training plan was explained to a group of senior managers and the Labor Management Committee before the development of Phase One training began. Staff Development Trainers convened focus groups of job incumbents to critique the curriculum and the corresponding evaluation methodologies. The needs assessment process and Phase One of the training were completed in one year.

Phase One Training. Phase One training included a Customer Service training module, an Employment Service training module, and an Unemployment Insurance training module. At the end of each training module participants learning was evaluated. Each module consisted of four days of training (two days of classroom training and two days of on-the-job training), a half day of study time, and a half day evaluation. The evaluations assessed learning by determining performance on job simulations.

Phase One training incorporated several distinct delivery techniques which were based on adult learning principles and participants' input about "the best way to learn" and "the best way to demonstrate" variables on the Job and Task Analysis document. The classroom training incorporated presentation and discussion, interactive video and discussion, role plays, demonstration, and simulations. For example, the Customer Service classroom training incorporated role plays and demonstration to teach participants how to improve face-to-face interactions and telephone interactions with DOL customers. The Job Service and Unemployment Insurance classroom training, on the other hand, combined presentation and discussion with a variety of simulations to teach the technical skills needed to perform the job.

The on-the-job training incorporated presentation and discussion, role plays, demonstration, simulations, and computer-based instruction. Access to computers allowed participants to practice the training learned in the classroom phase. Additionally, individuals with Employment Service expertise were paired with individuals with Unemployment Insurance expertise to coach each other during the practice sessions.

Team teaching was also an essential component of this training. Staff Development trainers were paired with supervisors to deliver the training and to administer the evaluations. The pairing of the trainers and the supervisors enhanced the skills of both groups. Supervisors learned presentation skills in a formal "Train the Trainer" session and practiced the new skills as they delivered the training. Staff Development trainers developed technical skill competency as they worked with supervisors to deliver the technical portions of the training.

Phase One training was designed to ensure the ability of front line workers to deliver integrated services. Upon the completion of this training the front line staff in the 18 Job Centers began to offer combined Employment and Unemployment services to their customers. Ongoing informal on-the-job training has reinforced and supplemented Phase One training. In addition, the evaluation of the workplace application of training skills two months after the training was used to refine future training plans. Data from customer service satisfaction surveys were also used to measure DOL's successes and to refine the future training plans.

Future Training For Connecticut Department of Labor

One-Stop Career Centers. The original goals for the reorganization of DOL have recently been expanded to meet the continually changing demands of the marketplace. To avoid the privatization of traditional core services, DOL has begun to collaborate with other state agencies to offer combined services to individuals and employers in Connecticut in 19 One-Stop Career Centers strategically located throughout the state. The delivery of integrated services in this new system requires a long term commitment to the development of all staff. Consequently, capacity building efforts will focus on improving skills to ensure (a) the delivery of universal services to all segments of Connecticut One-Stop Career Center workforce, (b) the delivery of specialized services responsive to local markets, (c) the integration of services in a statewide network, and (d) the measurement of quality outcomes to determine customer satisfaction. To accomplish this objective DOL and its business partners (other state agencies) must collaborate to design, deliver, and evaluate coordinated training for all One-Stop Career Center employees.

To successfully compete with private service providers (e.g., employment agencies), One-Stop Career Centers will build the capacity to provide superior service by capitalizing on current trends in business, technology, and training such as:

- Promoting lifelong, self-directed learning
- Promoting systematic learning which emphasizes measurable performance
- Combining centralized and decentralized training according to the needs of each One-Stop Career Center
- Using computer-based technologies to collect, retrieve, and disseminate information needed to provide integrated service

Training. The training process will emphasize the transfer of training from the classroom to the workplace. All training for the One-Stop Career Centers will be designed to: (a) provide instructional content that teaches the skills and knowledge employees need to do a job, (b) promote employees motivation to use the skills and knowledge learned in a training context, and (c) promote a work environment that supports the use of the newly acquired skills and knowledge. The training will be designed primarily as on-the-job training to ensure workplace application of new skills. Classroom training will be designed to augment the on-the-job training only as needed. The curriculum for the on-the-job training will incorporate demonstration, simulations, computer-based instruction, role plays, presentation and discussion, and peer coaching. The curriculum for the classroom training will incorporate presentation and discussion, interactive video and discussion, role plays, demonstrations, and simulations.

The training will be centrally coordinated and locally delivered. This design allows each One-Stop Career Center to design an individualized three year training plan that matches its specific training needs. All core modules, therefore, will be delivered each year to accommodate schedule variations. In addition, training consultants will team with One-Stop Career Center supervisors to deliver the training and to evaluate performance. Supervisors will learn presentation skills in a formal "Train the Trainer" session and will practice these skills as they deliver the training. Ultimately, the training consultants will be assigned to a specific One-Stop Career Center to help the Center solve specific workplace problems while the supervisors will provide most of the training required in their offices.

Strategic Quality Training Model. Over the past two years, DOL has developed a Strategic Quality Training model to support the continuous improvement of core business activities.

This six step model will be used by the One-Stop Career Centers to develop all capacity building initiatives. First, a needs assessment is conducted to assess training needs related to the One-Stop Career Centers' mission. The gap between present skill level and the required skill level is identified and training objectives and corresponding performance goals are established for individuals and offices. In the second phase, training is designed to establish a formal link between training activities and the work environment. Specifically, *task training*, is designed to build specific skills (i.e., customer service skills) that are needed by the One-Stop Career Centers' staff and *leadership training* (i.e., coaching and mentoring training), is designed to build specific support skills needed by the supervisors and managers who are expected to promote the long term application of the task training. Once the curriculum is designed, corresponding evaluations are

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designed to measure reactions to the training, the learning that results from the training, the behavior change that occurs as a result of the training, and the organizational results that occur due to the training.

During the third phase, the training will be delivered and the evaluations to determine participants reactions to the training and participants' learning will be administered. These evaluations will be used to determine the short term transfer of training. Next, the application of both kinds of training takes place in the work environment. After training participants have had time to practice their new skills (a minimum of three months) evaluations to measure long term transfer (behavior change and organizational results) are administered. In the final phase modification of the training design and new training goals are defined based on the results of these evaluations. Continuous improvement is supported with a re-examination of the needs assessment process.

Summary. The utilization of this Strategic Quality Training model will facilitate learning for all employees while promoting the continuous transformation of the One-Stop Career Center itself. The reorganization of independent services of several state agencies into integrated services provided by One-Stop Career Centers, however, requires behavior change on the part of all employees. Therefore, the reorganization of services must be done carefully to minimize the resistance that always surfaces in reaction to organizational change. Based on research conducted during CT DOL's reorganization, the implementation of One-Stop Career Centers will face organizational barriers (e.g., weak sponsorship by senior managers), work group barriers (e.g., a "don't rock the boat " posture), and individual barriers (e.g., weak self-efficacy) that may limit the effectiveness of training interventions. Consequently, the training consultants must manage the resistance and remove the barriers to ensure the success of the One-Stop Career Centers. While specific barriers to the successful implementation of capacity building training cannot be defined in advance, this Capacity Building Training Plan outlines several forms of "good practice" that will minimize the impact of the barriers that will emerge. The use of the following strategies will allow training consultants to manage resistance as it emerges:

- Design training to support the One-Stop Career Center's mission
- Use an inter-agency committee (with representation of the stakeholders) to craft training plans
- Include participation of all stakeholders (the learners, the trainers, union and management) in the design and delivery of all training and evaluations
- Collaborate with faculty and graduate students at the University of Connecticut to ensure the use of "best practice" strategies
- Use training consultants (either existing staff or outside consultants) as managers/facilitators of the training process
- Combine classroom training and on-the-job training
- Use peer coaching and support in the training design
- Provide supervisory/management training for those supervising individuals engaged in task training
- Use supervisors to train and to evaluate performance
- Use evaluations immediately following the training as well as three to six months later to assess learning and job performance
- Develop systems to reward excellent outcomes and efforts
- Formalize an ongoing assessment process (Individual Development Plans) for trainees to ensure continuous learning
- Refine the long term training plan based on the changing needs of the One-Stop Career Centers

The use of the Strategic Quality Training model promotes training that (a) supports the organization's strategic mission, (b) responds to customer needs, (c) develops complementary skills of workers in all levels of the organization, (d) promotes continuous improvement in the workplace, and (e) provides a significant return of investment.

Implementation of this model will transform DOL and the One-Stop Career Centers by encouraging participation in the design, the implementation, and the application of relevant, contextual training that promotes lifelong learning. Employees will be empowered to use their distinct individual voices to respond swiftly to customer demands. In addition, work groups will be empowered with independent voices to solve problems and to transform the organization's products and services. Finally, collaborating work groups will be empowered with a collective voice that will continually transform the organization's mission and goals to ensure corporate survival in a global economy.

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Managing Organizational Learning to Improve Performance

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The scholarly and popular literatures on organizational learning fail to account for performance as the fundamental unit of measure in organizations. In the organizational context, learning must be managed for performance if it is to have value and find support. This paper synthesizes the findings of academic research and practitioner-oriented publications, and describes the implications of a performance-orientation for the four constituent components of organizational learning: knowledge acquisition, information distribution, interpretation, and organizational memory.

Organizational learning is receiving increased attention in both the scholarly and the practitioner literatures, it is recognized as "intellectually attractive and of practical importance" (Huber, 1991, p. 108). Organizational learning is not a new concept: Weber, as Cohen and Sproull (1991) point out, noted the ability of bureaucracies to learn from experience over 70 years ago, and Simon formally introduced the concept in 1953 (Simon 1953/1976). In more recent times, a sharp increase in the level of global competition, the drive for product and process quality and innovation, and changing expectations and skills levels of employees have led to the recognition that an organization's ability to learn is of strategic importance for gaining and maintaining a competitive position in today's market place. The importance of developing organizational learning has also been noted by the Human Resource Development (HRD) profession: Senge's (1990) *Fifth Discipline* is considered a classic in the field, and has spawned a host of articles and books on the *Learning Organization* (for example: Marquart & Reynolds, 1994; Swieringa & Wierdsma, 1992; Walker, 1993; and Watkins & Marsick, 1993). Marsick and Watkins (1994) propose that the learning organization become the integrative vision for HRD. Organization scholars have adopted the concept of organizational learning as useful for advancing the theoretical knowledge base of organizational actors and actions. A better understanding of the processes of organizational learning, as Cohen and Sproull (1991) in the introduction to a special issue of *Organization Science* dedicated to the topic assert, will "provide a positive alternative to rational choice assumptions [and may account] for phenomena such as culture and institutionalization" (p. i). Further, organizational learning theories will "more gracefully accommodate the effects of history and timing on organizational events and on the beliefs of organizational actors [by] providing insight into how a sequential stream of experience becomes the basis for action" (Cohen and Sproull, 1991, p. i).

Organizational Learning: Metatheory or Strategic Intervention?

As a concept that addresses one of the fundamental properties of open social systems, organizational learning is complex, ambiguous, and fraught with methodological and conceptual challenges. A review of the practitioner and scholarly literatures reveals a broad spectrum of issues, definitions, and concerns united under the concept. The various approaches can be represented as a continuum ranging from organizational learning as a metatheory for organizational behavior on one end to organizational learning as a deliberate strategic intervention on the other. Figure 1 identifies the two extremes of the continuum:

Figure 1
Continuum of Definitions of Organizational Learning

Organizational Learning as Metatheory ——— Organizational Learning as Strategic Intervention

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Organizational Learning as Metatheory Like organizational metaphors (Morgan, 1986), metatheories are conceptual frameworks of a fundamental nature that guide and direct the researcher's or practitioner's approach to a given problem. Since the perception of reality, of a given situation, problem, or issue, is mediated by our cognition, selecting a metatheory or conceptual framework is of fundamental importance; it is "perhaps the most strategic choice that an investigator makes, for it significantly influences the research questions that are asked, the concepts and constructs that are developed, and the kind of propositions and hypotheses that are set forth to answer the research question" (Van de Ven, 1994, p. 9). Since Cyert and March's (1963) early definition of the concept of organizational learning—and with increasing frequency in the past ten years—it has received attention as a theoretical framework for advancing organization theory and describing and explaining organizational behavior. Theories of organizational learning are useful because they "offer a positive alternative to rational choice models and they complement the organizational ecology perspective, institutional theory, and the microsociology of knowledge" (Barnett, 1994, p. 3). Organizational learning designates "a family of descriptive, explanatory, and normative models of change in collective behavior" (Barnett, 1994, p. 5). It is seen as a fundamental mechanism by which organizations as open systems interact with their environment, process information, and adapt to changing external and internal conditions. Central to the concept is 1) the process of learning from past experience, 2) learning involving the acquisition of knowledge, 3) organizational change, 4) a focus on the identification and correction or prevention of problems, and 5) the organization as the unit of analysis. Despite disagreement over terms, assumptions, and research methods, there is, as Barnett (1994) concludes, a fair amount of consensus among scholars over the definition of the construct. Reviewing the major research on the subject over the past 25 years, Barnett (1994) advances the following as a composite of definitions common to most scholarly works on the topic:

> Organizational learning is an experience-based process through which knowledge about action-outcome relationships develops, is encoded in routines, is embedded in organizational memory, and changes collective behavior. (Barnett, 1994, p. 9)

A central aspect of the scholarly work on organizational learning is the emphasis on theory development, rather than application or improvement. The two perspectives, explanatory/descriptive and normative/intervention-oriented, are seen as conflicting, and potentially contradictory and mutually exclusive. As Argyris and Schon (1978) assert, "theories created to understand and predict may be quite different from theories to help people make things come about" (p. iv). There is the perception of danger of a premature narrowing of the field through an overly applied, improvement-oriented focus, while a broader, descriptive conceptualization may afford greater opportunities for comprehensive and inclusive theory building. Issues of power, politics, and morality, or the consequences of organizational learning for particular groups within an organization, are seen as confounding the phenomenon and distorting our understanding of the construct (Barnett, 1994).

Organizational Learning as Strategic Intervention On the opposite end of the continuum is the application and intervention-focused understanding of organizational learning. Senge (1990) introduced the concept of the *learning organization* as an answer to changing economic, social, and technical conditions, asserting that "the organizations that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn at *all* levels in an organization" (p.4). The learning organization, according to Senge, offers an alternative to the traditional authoritarian model, an answer to a shift in people's orientation to work from an instrumental to a higher, more sacred view oriented toward intrinsic rewards. A host of publications have since further explored and advocated the learning organization. Common to many of them is the prescriptive, applied focus geared towards executives, managers, HRD specialists, and consultants. *Becoming a learning organization* is advocated as a strategic decision by organizations in reaction to the increasing speed of technological, economical, and social change. Organizations must not only learn at increasing rates, but also *learn how to learn;* they must become capable of developing the capacity for examining and changing immediate, routine tasks—single loop learning—and underlying governing values, policies, and assumptions —double loop learning (Argyris and Schon, 1974). The prescriptions for becoming a learning organization are many: Learning organizations are said to require continuously developing

strategies, organically networked structures, a task-oriented culture, and supportive systems (Swieringa & Wierdsma, 1992); they must embrace systems thinking, develop anticipatory and loop learning capabilities, apply action learning, develop information systems, and create learning spaces (Marquart & Reynolds, 1994); they focus on individual, team, and organization-wide levels, and require work redesign, empowerment of employees, and enlightened leadership (Watkins & Marsick, 1993).

The Missing Link: Managing Organizational Learning to Improve Performance

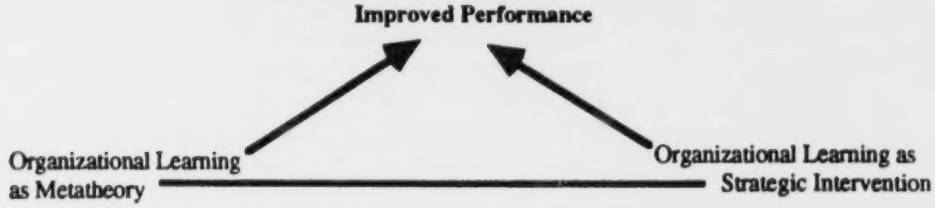
Both stances, metatheory and strategic intervention, are incomplete. The scholary view neglects the improvement potential of organizational learning, while the practitioner focus tends to portray learning as a binary event. Learning in open systems is a continuous, omnipresent, and fluid process of information exchange with the environment, which cannot be turned on or off at will. Organizations have little control over *whether or not* learning takes place, but they do have potentially substantial amounts of control over *the kind* of learning that occurs within their bounds. To be of value to organizations, organizational learning must be managed for performance improvement, and HRD is the natural function to direct learning for performance. The orientation toward performance improvement is the missing link in the bewildering "diversity of opinions and conceptualizations" (Walker, 1993, p. 5) of both the academic, conceptually-oriented and the practitioner, intervention-focused literatures. The primary purpose, goal, and objective of organizations, private or public, is to produce and deliver high quality goods and services that meet or exceed customer expectations, not to increase learning, acquire knowledge, or become a learning organization. Performance is the fundamental unit of measure in business and industry, whether public, private, for-profit or not-for-profit, and the concept of organizational learning will find sustained support in organizations to the degree that it results in improved organizational performance and excellence. The importance of performance improvement has been recognized by scholars such as Rummler and Brache, (1990); Swanson, (1994); and Jacobs, (1989); but also by government. A recent report by the U.S. Department of Labor (1992), for example, identified the need for high performance in government in light of the increasing federal deficit and budget cuts ('doing more with less'); the lack of confidence in and level of dissatisfaction with government services; and finally the need to attract and retain a high quality, motivated public work force. The report defines high performance in government as "a comprehensive, customer-driven system that aligns all of the activities in an organization with the common focus on customer satisfaction through continuous improvement in the quality of goods and services" (p. 2).

Organizational learning must be managed for performance at the individual, group, process, and organizational level; learning is omnipresent, yet it must be aimed at improving performance and increasing expertise. A focus on organizational learning is a means to an end, it must be supportive of organizational outcomes, and is not an end in itself. Focusing on organizational learning, in the business context, constitutes an investment, and there are transaction costs in terms of time, direct and indirect expenses, and opportunity costs. March's (1991) seminal article on exploration and exploitation in organizational learning addresses this central task of organizations to find the right balance between the pursuit of new, uncertain, but potentially profitable possibilities—exploration—and the *harvesting* of known activities —exploitation. Learning is inherently risky, and success is not always assured. Like other investments, the value of a focus on organizational learning will be assessed by organizational decision makers along the three performance questions identified by Swanson (1994):

1) Will individuals perform better on the job as a result of a focus on organizational learning?
2) Will the process perform better as a result of a focus on organizational learning?
3) Will the organization perform better as a result of a focus on organizational learning?

Figure 2 represents the connection between organizational learning and performance:

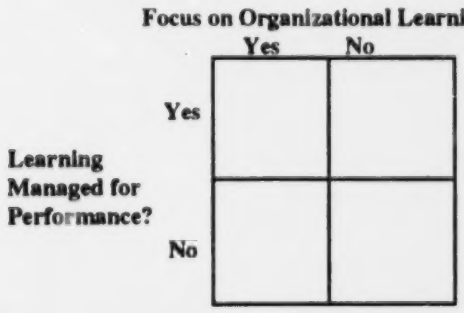
Figure 2
Organizational Learning and Performance



The link between organizational learning and organizational outcomes has, of course, been recognized in the literature: Argyris and Schon (1978) for instance argue that organizational effectiveness must be enhanced in order to claim that organizational learning has occurred; Huber (1991) declares that knowledge must be—at least potentially—useful to the organization; Nonaka (1994) addresses the process of evaluating the truthfulness of organizationally created knowledge by standards of cost, profit margin, and contribution to the firm's development; and Barnett (1994) recommends concentrating on "learning as a process of change, (*sic*) that allows for an opportunity to ask whether learning is intelligent" (p. 20).

Since learning is a means, not a primary organizational outcome, it is important to distinguish between learning that improves performance and learning that does not. Learning does not always lead to intelligent behavior: there are many examples of spurious or superstitious learning, competency traps, and erroneous inferences. If learning is managed for performance, it will result in desired organizational outcomes, if not, its benefits to the organization are doubtful at best. Furthermore, organizational learning is not the only means for improving performance; other interventions such as organization development, task design, motivation, or technological work place solutions also have the potential for increasing the attainment of desired organizational outcomes. In order to use it strategically and maximize performance, it is important to understand under what conditions and how learning, rather than another type of intervention, will lead to the desired outcome. The relationship between the learning and performance is depicted in form of a decision matrix (Figure 3):

Figure 3
Decision Matrix for Performance-Oriented Organizational Learning



Organizational learning strategies, then, must be used discriminately, they are not panaceas for all organizational ills. Organizational learning must be managed to increase performance. When linked to performance, learning is intentional, and—like structured on-the-job training (Jacobs, 1990)—systematic (Systems Theory used), its outcomes are defined in advance, and it is seen as a solution within the human performance system. Learning not managed for performance, on the other hand, is unintentional and suffers many of the same flaws as unstructured training: it produces unpredictable results, is non-systematic, and does not produce reliable solutions. The challenge for organizations is to manage organizational learning, to

increase the level of intentional—that is performance oriented—learning, while decreasing the amount of unintentional, unreliable learning.

Managing Organizational Learning Processes to Improve Performance

The remainder of this paper will examine four major learning processes and describe the implications of performance oriented learning management for each. The four learning-related constructs and processes commonly found in the literature are described by Huber (1990) as

- Knowledge acquisition
- Information distribution
- Information interpretation
- Organizational memory (p. 90)

Knowledge Acquisition Knowledge, whether in the domain of skills, information, or attitudes (Campbell, 1984), is gotten by organizations in a number of ways: through congential learning, experiential learning, vicarious learning, grafting, and searching and noticing (Huber, 1991). *Congential knowledge* consists of the stock of experience, attitudes, know-how, and skills that founders bring to a newly created organization. "The nature of an organization is greatly influenced by the nature of its founders and its founding [....] What an organization knows at its birth will determine what it searches for, what it experiences, and how it interprets what it encounters" (Huber, 1991, p. 91). *Experiential learning*—learning from experience—has received copious attention in the organizational learning literature as one of the major theoretical constructs. Experiential learning includes experimentation and testing of alternative courses of action; internal and external feedback, self-appraisal, and self-reflection, such as action research; experimental organizational forms, such as self-designing organizations; unintentional or unsystematic learning, such as members' self-education or professional development; and learning from trial-and-error performances. *Vicarious learning* —learning from the experience of others or second-hand learning—is accomplished through benchmarking other companies, through consultants, trade or professional meetings or publications, customers and suppliers, and professional networks. *Grafting* consists of increasing the organization's knowledge base through new members, acquisition of new technologies or processes, or mergers with other organizational units or entire companies. Finally, organizations expand their knowledge through performance monitoring, environmental scanning, and focused searches for solutions to existing or anticipated problems.

Knowledge acquisition is costly, and critical and scarce resources will be wasted unless it is managed for performance improvement. Managing knowledge acquisition for improvement requires the organization to declare its performance objectives at the individual, process, and organizational level, and to direct learning towards those objectives. Unfettered learning is not likely to lead to improved performance. There must be standards for what constitutes useful knowledge, and learning must be evaluated against these standards by top or middle management (Nonaka, 1994). Learning requires a certain amount of slack resources for experimentation and exploration. Over-management of learning, on the other hand, can lead to a lack of variation and available alternatives, and there is a danger of stifling creativity and the development of alternative courses of action through overly tight restrictions. 3M's "15 percent rule" is an example of a learning strategy linked to performance: Certain units within 3M are free to spend up to 15% of their working time on projects not related to current production tasks, but the corporate goal is that 30 percent of annual sales result from products developed within the previous four years (W. Coyne, personal communication, December 2, 1994). When new knowledge is created, it is not always beneficial to the long-term survival of the firm, even if there is short-term success. While success tends to lead to an increase in like actions, a balancing cycle often leads to 'competency traps' as was the case in the Swiss watch industry when digital technology conquered the market.

Figure 4 shows some key attributes of knowledge acquisition managed for performance:

Figure 4
Knowledge Aquisition and Performance Orientation

Managed for Performance?	Knowledge Aquisition
Yes	**Linked to Strategy** **Evaluated** **Intentional** **'Calculated risk'**
No	**Haphazard** **Unintentional** **Wasteful** **Competency Trap**

Information Distribution The distribution of information, the second constituent process of organizational learning, links individuals with groups and the organization as a whole. Once useful and valid information is created, it must be distributed to other organizational members. Without distributive processes, the organization as a whole knows literally less than its members. Organizations, as Huber (1991) asserts, oftentimes do not know what they know. Large organizations especially have "only weak systems for finding where a certain item of information is known to the organization" (p. 100), and are often not aware for whom certain information may be useful and under what conditions. As in knowledge creation, organizations need to strike a balance between inundating members with information—thereby diminishing the value of information—and restricting access—at the risk of excluding members from vital information. The criteria for information distribution are again oriented toward their impact on performance. Not all useful knowledge leads to immediate action or behavior changes; information that increases the potential or capacity for desired behavior is equally useful and should be shared. Figure 5 depicts a sample of characteristics of information distribution managed for performance:

Figure 5
Information Distribution and Performance Orientation

Managed for Performance?	Information Distribution
Yes	**Information distribution linked to strategy** **Information evaluated** **Users identified** **Information needs identified** **Information indexed** **Effective distribution channels used**
No	**Information distributed indiscriminately and haphazardly**

Information Interpretation Interpretation is the process by which information is given meaning and by which shared understanding of events is developed. (Huber, 1991). Organizations rely on interpretation by individuals for distribution, sharing, and creating knowledge. Interpretation, however, can vary among individuals, and this variance can result in variations in the understanding of the message or information content. The extent to which shared

understanding of new information results from interpretation is affected by

> (1) the uniformity of prior *cognitive maps* possessed by the organizational units;
> (2) the uniformity of the *framing* of the information as it is communicated;
> (3) the *richness of the media* used to convey the information;
> (4) the *information load* on the interpreting units; and
> (5) the amount of *unlearning* that might be necessary before the new interpretation could be generated. (Huber, 1991, p. 102)

Since collective action and behavior depends on the veracity of the interpretation by employees, this process is critical for organizational learning. Issues of communication styles, trust, respect, openness, and honesty appear to be related to this issue, as is the cohesiveness of the prevailing culture. While some variance in interpretation is desired—it results in increased variation in behavior—organizations must maintain a minimum of shared understanding to function effectively. Some attributes of information interpretation managed for performance are listed in Figure 6:

Figure 6
Information Interpretation and Performance

		Information Interpretation
Managed for Performance?	Yes	**Likelihood of interpretation variance recognized** **Balance between variation and uniformity** **Cohesive culture, trust, respect, and openness** **Strong, unambiguous message content** **"Rich media" used** **Feedback and verification of correct interpretation** **Information channels not overloaded** **Sensitivity to unlearning issues**
	No	**Excessive variation** **Stifling uniformity** **"Rumor Mill"**

Organizational Memory An organization's capacity to learn depends on its ability to store and retrieve information timely and accurately. The three previously described processes: knowledge acquisition, information distribution, and information interpretation all directly depend on the organization's ability to access previous information and 'to know what it knows'. Information and knowledge are stored at various levels: as norms and codes of behavior; in organizational routines and scripts, such as stories, histories, and myths; as culture and organizational structures; in procedures and explicit and implicit rules; and, of course, in individuals' memories and computer data banks. Poor organizational memory results from: personnel turnover; discarding of information because its future usefulness is not recognized or not anticipated; poor or inefficient storage; and the lack of proper indexing (i.e. knowledge of the whereabouts or the existence of information.) While a lot of 'hard' information is regularly stored in organizations, non-routine information or process knowledge is less often saved reliably. Huber (1991) points to recent developments in computer science and predicts an increase in the use of computer-based expert systems for accurate and reliable storage of 'soft' and non-routine information. Organizations that manage learning for performance recognize the strategic importance of organizational memory in all its forms: through rules and procedures, training, and even culture. Such organizations will manage the organizational memory in terms of knowledge that is useful or potentially useful, and knowledge that must be discarded or unlearned. Organizational memory is the key to successful learning, and only those organizations that manage it well reap the benefit of learning on the individual, process, and organizational level.

Figure 7 suggests some key points in organizational memory managed for performance:

Figure 7
Organizational Memory and Performance

Managed for Performance?	Organizational Memory
Yes	**Continuity of key personnel** **Training used systematically** **Information Technology** **Organizational networks** **Free information flow** **Trust, openness, lack of 'impression management'** **Periodic and systematic review of knowledge base** **Longterm orientation** **Systematic retention and indexing of useful knowledge**
No	**Haphazard, unsystematic storage of knowledge** **"Doomed to repeat mistakes of the past"**

Conclusion

Organizational learning is a powerful concept that has the potential for enriching theory and practice of organizations and is of key importance to HRD. The concept cuts across organizational functions and levels, and ranges from deliberate, cognitive processes to issues of norms, culture, and theories-in-use. The concept has the potential to unify many disparate aspects of organizational functioning and act as strategic lever for improvement. Organizational learning has received much attention in the academic community, and more recently under the concept of the learning organization among practitioners. The two perspectives have not been integrated well: scholarly research of the field is careful to avoid an overly prescriptive, intervention-oriented approach for fear of narrowing the field of inquiry prematurely. Practitioner-oriented publications fail to adequately take into account that not all learning is desirable, and advocate the learning organizations as a panacea for a large number of organizational ills. Neither perspective can afford to ignore the other: academic research atrophies and renders itself irrelevant outside of academia without accounting for the needs of real-world organizations. Intervention-oriented theories about the learning organization, on the other hand, run the risk of becoming overly mechanistic, trivial, and intellectually uninteresting without taking the dynamic, complex, and oftentimes unpredictable nature of organizations as open social systems into account. Both perspectives lack the performance orientation that can serve as the common linkage between the two. Managing learning for performance recognizes the goal-oriented perspective of the learning organization, but uses the process knowledge gained from academic research to guide the use of learning. The four key processes: acquiring knowledge, distributing and interpreting information, and storing knowledge in organizational memory have to be managed for performance if they are to lead to desired organizational outcomes and further the goals of the organization and its members.

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